

INTRODUCTION AND ACKNOWLEDGEMENTS

1. The present work is an archaeo-semiotic investigation designed to question and document the existence of an original and mainly not linguistically based system of writing from Southeastern Europe. The *Danube script* is examined through data presented from the Neolithic and Copper Age. During this expanse of time, the *Danube civilization* played a central role in Southeastern Europe, contributing many innovations and practices. Sign analysis has been utilized as a filter for archaeological data. In turn, archaeological context, observed in conjunction with other related information, provided new insights for examining this sign system. The need for an applicable interplay between two disciplines, Semiotic and Archaeology, has emerged from a deficiency within existing expertise. It is generally embedded within inflexible canonic models regarding the origin of ancient scripts and the historical development of *ars scribendi* that are challenged by the Danube evidence. Analysis of the widely recovered, sign bearing, prehistoric artifacts requires both insights regarding the principles and organization of sign systems, and an archaeological understanding of ancient societies and cultures, specifically their rationale for inventing or adopting writing technology. Harald Haarmann and Joan Marler have recently recalled that studies on the history of writing have remained, to this day, an arena where experts from different fields (mainly linguists and archaeologists) and amateurs alike demonstrate their expertise (or speculations) by making pronouncements about the emergence of ancient scripts and their historical development (Haarmann, Marler 2008).

Linguists who are familiar with languages of antiquity, and who study the scripts in which they are written, have an understanding of the organization of sign systems and, in cases of phonetic scripts, they can see how such signs may be related to sounds. However, their grasp of the historical mechanisms behind the origins of this invention, and of how writing skills have unfolded, is limited by the widespread relegation of *ars scribendi* to a vicarial role as a more or less truthful reflection of the spoken language. Further, there is a lack of comprehension concerning archaeological insights about the cultural embedding of ancient societies and their motivations to introduce writing. Archaeologists make authoritative declarations about writing systems without even discussing basic definitional approaches to writing technology. They are not engaged in the study of sign systems (language and non-language related) within a network of communication, because that semiotic scientific terrain extends beyond the archaeological sphere. Therefore, they often observe patterns of consensus and adhere to conventional truisms.

The state of art is even more problematic concerning studies associated with the *possibility* that that Neolithic and Copper Age cultures of the Danube valley and its hinterland might have developed an early and original form of writing that predated Egypt and the Near East regions by 1000-2000 years. Linguists/Semioticians and archaeologists very rarely join and metabolize forces, each generally using the entrenched old-fashioned truisms of the other discipline that the proper specialists are in process of discarding as outdated.

Semioticians and linguists discuss “why,” “how,” and above all, “if” *ars scribendi* came out in the villages of the Danube civilization. Yet, they do this without becoming involved in archaeological studies, examining assemblages of inscribed objects at museums and excavation sites, coping with the material and cultural fabric of the Danube civilization, or dealing with the trajectories of the socio-cultural evolution of communities, cultural groups, and complexes as they emerge from the archaeological record. In many cases, their archaeological and historical background is anchored to outdated visions. They become limited, considering the potential occurrence of a European archaic script to be so unthinkable that the simple possibility of it is ignored and its evidence given very scanty attention. In rare occasions when the data is not blindly rejected, they often come to postulate an *ex oriente lux* drift for this technology.

Archaeologists make pronouncements about how writing technology emerged in ancient societies, and its nature and role as an institution of early civilization, without proper semiotic methodological tools, intimate knowledge of the infrastructure of sign systems and considering how various principles of writing apply to different linguistic structures. Often they make assessments without even discussing basic definitional approaches to writing technology. The archaeological record of inscribed artifacts from the Neolithic and Copper Age of Southeastern Europe is persistently cheapened by many archaeologists as bearing “pre-writing” signs, “potter’s/owner’s marks”, “magic-religious symbols”, or generic “signs,” despite the presence of features that clearly argue against such suppositions. In its comprehensive meaning, the term “Danube script” indicates the original successful experiment with writing technology of the populations making up the Danube civilization and not a “precursor” to writing, or “pre-writing,” as in some have described it (Winn 1981; Masson 1984; Hooker 1992).

Therefore, the author had to explore a relatively unknown horizon, some pioneering and untied research apart (including Torma, Schmidt, Childe, Petkov, Georgievskij, Todorović, Cermanović, Vlassa, B. Nikolov, G.I. Georgiev, V.I. Georgiev, Gimbutas, Makkay, Winn, Joanović, Trbuhovich, Vasiljevich Haarmann, Todorova,

Gh. Lazarovici, Luca, Paul and Starović). Consequently, a strong effort was expended in debugging and developing the appropriate theoretical framework and methodology. Additionally, a great deal of energy went into inspecting the inscribed objects, building a databank on the inscriptions, establishing an in-progress inventory of the signs employed by the Danube script, and synchronizing chronological and cultural development (*DCP - Danube Civilization Phases*) with the life cycle of the Danube script. To make this task more difficult, still nowadays the history of writing has yet to be established as an independent domain of the social sciences, unlike Historical Linguistics.

2. In Southeastern Europe, the experiment with literacy started around 5900-5800 BCE with the Starčevo-Criș (Körös) IB/IC and Karanovo I horizon, some two thousand years earlier than any other known writing. It is called the *Danube script* because it originally appeared in the central Balkan area and had an indigenous development. *Ars scribendi* quickly spread along the Danube River and tributaries northward to the Hungarian Great plain, westward to the Adriatic coast, southward down to Macedonia and Thessaly, and eastward to Ukraine. The Danube script flourished up to about 3500-3300 BCE, when an economic-social upheaval connected to an ecological crisis took place: according to some, there was an intrusion of new populations, whilst others have hypothesized the emergence of new elites. At that time, the Danube script was eclipsed and was later to be lost.



The region where the Danube Civilization and the Danube script flourished. The Danube script (framed in orange) was utilized in the core area of the Danube Civilization (framed in red).

The over-arching terminology of “Danube script” includes what has been called the “Vinča signs” and the “Vinča script” (Winn 1973; ibidem 1981; ibidem 2008: 126; and Merlini 2004a: 54). The connection of the inscribed signs with the Vinča culture that flourished in the Developed/Middle Neolithic within the core area of the great Danube basin has a reasonably long history. However, it categorizes only a specific period of the Neolithic and Copper Age timeframe, has provincial boundaries, and does not evoke a clear geographical region. The experiment with literacy has to be extended in time (from Early Neolithic to Late Copper Age) and in space (embracing the whole Southeastern Europe). Other scholars use “Danube script” as synonymous with the “Old European script,” coined by Gimbutas (Gimbutas 1991; Haarmann 2002: 17 ff.; ibidem 2008a: 12; and Haarmann and Marler 2008: 1). However, this designation is based on the vague concept of “Old Europe” conceived by the same author (Gimbutas 1974; ibidem 1991), as below explained, and elicits a distinct connection with Southeastern Europe. The most suitable term would be *Balkan-Danube script*, being the preponderant use of signs found in the territory that is identified by two renowned geographical markers: the Balkan region and the Danube River (Winn 2008: 127). The author’s use of “Danube script” merely reflects the necessity to shorten “Balkan-Danube” in favor of a flow of water that is the backbone of the European matrix (Merlini 2002c).

“Danube script” is an operational term and is not intended to designate to some extent a unity of literacy that lacks documentary evidence. When the databank of the Danube script inscription that the author is developing (*DatDas – Databank of the Danube script*) will reach the required critical mass of information, further investigation is needed in going over the unitary frame called “Danube script”. Statistical analysis will support the identification and sorting out the distinct paths drawn by the cultural institution of writing in the regional Neolithic and Copper Age traditions of Southeastern Europe. For example, both Hooker and Owens refer to the occurrence of “Balkan scripts (Hooker 1992; Owens 1999: 116). Comparing the signs from the Gradešnica culture with those from the coeval cultures of Thrace and Northwestern (former) Yugoslavia, B. Nikolov expressed the conviction that just a few of them were alike. He concluded that every separate ethno culture had produced its own sign system based on its respective tradition (Nikolov B 1984: 7). Nevertheless, the appearance of several scripts in the Balkan-Danube area throughout the Neolithic and Copper Age has to be demonstrated based on the understanding of the interconnections of sign use in the different cultural regions. Up to now, regional and cultural subdivision was successfully, although prototypically, tested by the author by creating some sub-databases of *DatDas*. *DatVinc* registers data on writing in the Vinča culture, which had the pivotal role in sign production. *DatTur* is established from the signs utilized by the Turdaş culture, documenting that the “Turdaş script” developed as a light regional variant under the framework of the Danube script (Merlini 2008c; ibidem forthcoming). *DatPCAT* records inscribed finds and inscriptions from the Precucuteni-Cucuteni-Ariuşd-Trypillia cultural complex, evidencing the presence of a late script related to the Danube script (Merlini 2004b; ibidem 2007c; ibidem 2008d).

Criticalities have not solely arrived from the side of the cultural and territorial articulation of the script. Concept and trajectory of the Danube civilization have to be substantiated from the archaeological record in a more solid way. It is vital to respond to scholars who dispute the presence of a civilization in the Neolithic and Copper Age of Southeastern Europe. Negation of existence for the Danube script and the Danube civilization are strictly connected. If a writing system can emerge only in a socio-economic, cultural and institutional context characterized by developed agriculture, full metallurgy, cities with large public buildings and monumental art (Makkay 1995), according to these scholars the Neolithic and Copper Age communities of Southeastern Europe did not reach such a degree of development. It is important to challenge the viewpoint that considers an independent and original invention of writing in the Danube basin to be an absurdity based on the general laws of social, economic and cultural development. This requires, at first, a substantial elaboration, in archaeological or anthropological terms, of the definition of ‘civilization’. Second, appropriate criteria and benchmarking indicators, capable of testing this label of ‘civilization,’ must be chosen with regard to the network of the agro-pastoral farming communities in European prehistory.

In short, by “civilization” the author is referring to a complex society with overarching ideologies that possesses a strong cultural core (Yoffee et al. 2005: 253). Traditionally, literacy is the most basic characteristic of civilization. The term “Danube Civilization” is here addressed for the Neolithic and Copper Age societies of Southeastern Europe that flourished from c. 6400 to c. 3500-3300 BCE (see Childe 1929; ibidem 1929; Haarmann 2002: 17ff.; and Merlini 2003h). This terminology is coherent with the acknowledgment that the Danube River and its tributaries favored the advent of an institutional, economic, and social network of developed cultures that can be addressed as “civilization” in congruence with those that emerged in Mesopotamia, Egypt, China, Indus valley, and Iran. The Danube Civilization was characterized by the required context for literacy. It illustrated an extended subsistence farming economy and lifestyle through the improvement of agrarian land and technology, a tendency toward sedentary life in permanent settlements,

proto-urbanism with concentrated agglomerates organized by planned layout, solidly built dwellings, and a tendency to distinguish profane (abodes, workshops and tribal/communal dwellings) and sacral (sanctified spaces and temples) architecture. It was characterized by advanced technologies (particularly in weaving, pottery, building and metallurgy), long distance trade and expansive exchange that even involved status symbols and luxury goods. The Danube Civilization exhibited the development of many household activities and skills such as spinning, weaving, leather processing, clothes manufacturing, shoe fabricating, and the manipulation of wood, clay, and stone. It speaks of a specialization of labor and social complexity, even if within the context of a semi-egalitarian social structure. The socio-economic system was associated with a complex ideological system connected to the agricultural creed of fertility and fecundity, elegant and cultured art, refined patterns of magic-religious imagery, an intense spiritual life, sophisticated religious organization and ritual. The complexity reached in the economic, social, institutional and cultural frames required an IT innovation to record, manipulate and transmit increasing packages of information. An effective system of communication was established (the *Danube Communication System*) by the means of tallies, marks, emblems, symbols and signs, of which writing technology was a crucial component. Writing technology did not emerge and develop anachronically, but as congruous consequence and manifestation of the framework in which it was utilized.

Until now, several components of the Danube Communication System have been identified. The author introduces a number of them in this work, giving semiotic guidelines to distinguish them from the script module. The Danube Communication System was comprised of magic-religious symbolism, divinity insignia, emblematic and schematic ornaments, devices for memory support, ritualistic markings, and notations relating to expressing numbers and/or numerology. There were calendric and chronographic annotations, terrestrial maps, sky atlases with constellations and motions of celestial bodies (sun, moon, and planets); marks for personal and family identity or ownership, marks of lineage recognition or community affiliation, social status or political authority marks, and signs representing bio-energetic points of the human body. Within the Danube Communication System, indications of a system of writing are apparent, too. This IT innovation enabled Neolithic and Copper Age communities to create archives collecting, metabolizing, accumulating, and spreading the knowledge they had acquired. It reinforced group solidarity and communal identity, supported humans to build dwellings, cult places and proto-cities, conveyed inspirational meanings, and helped them to understand and interpret natural environment, human milieu, and divine commitment.

The cultural horizon of the Danube Civilization, the Danube Communication System, and the Danube script demonstrates that the status of "early civilization" can no longer be limited to the regions that have long attracted scholarly attention (i.e. Egypt-Nile, Mesopotamia-Tigris and Euphrates, and the ancient Indus valley). It should be expanded to embrace the Neolithic and Copper Age civilization of the Danube basin and beyond. It is not synonymous with the term "Old Europe," as coined by Marija Gimbutas, because she identified under this blanket-expression an extended area examined as a quite undifferentiated unit, the common home of an ensemble of pre-Indo-European cultures (Gimbutas, 1974; ibidem 1989; ibidem 1991; ibidem 1999). Sometimes, the "Old Europe" broadened from the Aegean and Adriatic, including the islands, as far north as Czechoslovakia, Southern Poland, and Western Ukraine (Gimbutas 1974: 17). Other times it enlarged "from the Atlantic to the Dnieper" (Gimbutas 1989: XIII). However, Gimbutas broadly documented the richness of these cultural traditions, which included writing technology as one of the major resources.

3. At the end of the nineteenth century, and during the early decades of the last century, the presence of an ancient script in the middle and lower Danube basin was seriously maintained by distinguished archaeologists, historians, linguists, epigraphists, and philologists who spent much energy on this issue. However, in recent decades it was held so unthinkable that the simple possibility of it was ignored and its evidence given very scanty attention.

Nowadays the issue is again up for debate. However, it is under a schizophrenic splitting. The scholarly work is just taking its first steps and needs to start from the basics (searching out the inscribed artifacts in museum collections and storerooms, controlling the published drawings, and building a semiotic framework for this script, etc.). On the other hand, the anticipated invention of a European *ars scribendi* has triggering pernicious attention among amateurs and dilettantes who offer exotic and appealing mass media "readings" based on semiotic shortcuts and hazardous associations with subsequent systems of writing.

The reader in search of a magic key to "crack" the Danube script will be disappointed by the present study. Most of the efforts have been spent in creating the *pre-conditions* for understanding the semiotic code of a system of writing that may never be deciphered. The aspiration of the present work is not to bring the debate to an end through exhaustive research. It attempts to relaunch it, re-examining widely held assumptions, questioning the existing understandings, feeding the collective rumination with new documentation and thoughts, and widening the agenda for the direction in which future research can productively proceed.

In attempt to move beyond the theoretical models for accepting or refuting the script hypothesis in Southeastern Europe throughout the Neolithic and Copper Age, the author utilized a bottom-up approach. It consists of building up increasingly complex patterns from limited, but precise and directly checked, information on inscribed artifacts, inscriptions, and signs of the Danube script within their semiotic and archaeological context as well as configuring and reconfiguring the data within middle-range interpretations. The job began in collecting and examining the published and unpublished documentation from excavations and literature, dealing with its dispersed occurrence and multi-lingual presentation (from Romanian to Greek, from Hungarian to Bulgarian, from Serbian to Ukrainian, from Macedonian to Croatian, from German to Czech, etc.).

A second task was to establish the reliability of the corpus of the published inscribed artifacts. It needed the direct examination of the objects bearing signs, as much as it was possible, in order to avoid detecting script signs on the bases of the often badly-made photos and incorrect drawings available in the literature. In many renowned studies, these limits induced faults in completing and interpreting, not only the fragmentary and poorly incised marks visible on potshards kept in small village museums, but also the deeply and clearly engraved inscriptions on famous artifacts stored in major museums such as the Tărtăria tablets or the Gradešnica shallow receptacle.

Producing *accurate copies* of inscriptions is not such an obvious task. Main mistakes stem from the fact that the identification of marks with semiotic value is a process affected by a high level of subjectivity: one is unconsciously ready to notice what one expects to see. The present work analyzes some artifacts bearing signs that have been otherwise detected by linguists and archaeologists according to the different mood and cultural fashion of the succeeding times. While rummaging in museum storerooms and basements, I realized that two opposite cognitive attitudes affect the reliability of the published drawings of inscribed artifacts from the Danube civilization. At one pole, there are decoration-addicted scholars. Incapable of perceiving the presence of any sign of writing, when copying marks that they considered to be “weird” and “badly-made” ornaments created by “unskilled and idle craftsmen”, they attempted to regularize their shapes and add symmetry to their original patterns in order to achieve an aesthetic fulfillment. Consequently, my reexamination led to the insertion of a number of marks into the script framework that had been previously presented as unusual or bizarre ornaments. At the opposite pole, there are script-addicted scholars. They evidenced semiotic features typical of a system of writing (such as alignment in linear sequence of signs with rectilinear and standardized shape) even when decorative patterns or symbolic code were actually in occurrence. In this case, the present work had to expunge from the script framework a number of non-script marks published as “signs”. Producing *accurate copies* of inscriptions is an unglamorous work, involving painstaking fieldwork and collaboration with the often-scattered institutions that held the inscribed artifacts, but without all this hard work inventory of the signs and semiotic analysis are seriously handicapped.

4. The next task was to fashion a “Matrix of semiotic rules and markers” concerning the features of the Danube marks, symbols, and signs as well as their spatial organization/association. This methodological instrument was designed to check for clues of a system of writing and to distinguish it from the other communicational channels utilized by the Danube civilization. Investigating the ancient *ars scribendi*, I recognized that the high communicative skills of the Neolithic and Copper Age communities of Southeastern Europe were attested by the presence of a complex and a sophisticated semiotic system, the already mentioned Danube Communication System. Writing technology appeared and flourished within a cultural milieu characterized by a high propensity to communicate among human beings and with divinities. There was an increasing presence of large information packages that had to be recorded and transmitted, and a burgeoning network of communicative channels that were able to support complex messages.

The difficulty in distinguishing the Danube script from the other codes utilized several millennia ago to store, elaborate and transmit stocks of information within a still largely unknown communication system is due to a multiplicity of causes. Many of these generally correspond with the fact that the original production of this script was an experimental process associated with the intricate transition from an oral culture to one with writing and that it was “frozen” by the collapse of the Danube civilization when it was in transitional phase.

a. The Danube script pre-dated the other ancient scripts by up to one-two millennia, but early in its stages of development it was “frozen” by the collapse of the Danube civilization. As a result of its ending when it was still at the primordial stage, some script signs have the same shape as decorations, symbols, divinity identifiers, or astral marks depending on a context that is mainly obscure to us.

b. The outlines of some Danube script signs and extra-script marks as well as some features of their spatial arrangement were a legacy of Late Upper Palaeolithic and Mesolithic abstract communicational geometries, which were built upon different communicative meanings and conceptions of the World. A number of Danube script signs and extra-script marks of the Danube Communication System shared the same schematic

geometric roots that were embedded through the “geometric palaeo-revolution” that occurred as an IT innovation during the Late Upper Palaeolithic and Mesolithic in Southeastern Europe. Complex combinations of elementary geometric units were intended to express salient meanings such as abstract thought, sensations, feelings, myths, or even the perception of transcendence.

c. The Danube civilization used clay tokens (counters of a computational system), the same as in Mesopotamia, though to a much lesser extent. It is still under investigation if they represent the starting point of cuneiform writing within the Neolithic Near East framework (from 8000 BCE).

d. The features of the Danube script are indebted with earlier linear decorations. Remarkable examples from Gura Baciului, Bucova III, Ostrovu Golu, Trestiana, Cenad, and Gornea (Romania) illustrate how linear decorative incisions on Starčevo-Criș (Körös) ceramics were storehouses of information and transmitters of messages that may have evolved over a short time into a linear writing.

e. Our Western-acculturated inclination to associate writing with signs that follow a linear sequential organization is tripped-up by the discovery that while the Danube script has an essentially linear nature, it can also arrange signs haphazardly. To complicate things further, decorations and symbols may be aligned in succession: divinity/ancestry identifiers can be positioned along a line according to their hierarchical position, or bioenergetic marks may appear in sequence to render the progressively stimulating energy and life, etc.

f. Another trouble arises in discerning between script sign and extra-script signs: writing can cohabit on the same object with emblematic decorations and symbols.

g. One has finally to consider that the script was not fixed on rectangular, white, smooth, “odorless and tasteless” leafs of paper, but on highly symbolic objects made of clay and bone (human statuettes, seals, anthropomorphic pots, etc.) and their emblematic parts (vulvas, chests, and buttocks, etc). The “mail-artifact”, and the position of the signs on it, were integral components of the messages to be sent and received.

The “Matrix of semiotic rules and markers” was tested according to a number of facets (geographical patterns; cultural complexes and groups; typology of inscribed objects; and category of signs) in order to improve its reliability. It was applied to signs from the core area of the Danube civilization (Merlini 2004j; ibidem 2005c; ibidem 2007b), as well as to the life cycle of the sign systems (Merlini 2008d). It was further tested on signs of the Precucuteni-Cucuteni-Ariușd-Trypillia cultural complex (Merlini 2004h; ibidem 2007c; ibidem 2008g), the Turdaș culture (Merlini forthcoming), the inscribed anthropomorphic figurines (Merlini 2008f), some icons of the Danube script such as the Gradeșnica shallow receptacle (Merlini 2005b; ibidem 2006a) and the Tărtăria tablets (Merlini 2004a; ibidem 2004b; ibidem 2006d). The results achieved aided in choosing the specific criteria used to settle the Danube script within the Danube communication system. Of course, guidelines and indicators of the “Matrix” are in progress and under continuous tests by progressive approximations.

The “Matrix of semiotic rules and markers” was set up according to a conceptual and historical revision of the definition of “writing” and the current narrative concerning the origins of *art scribendi*. The task was accomplished through a comparison with other scripts of the ancient world. Within this framework, the traditional *modus operandi* that reduces writing to a sequence of signs designed to represent sounds of a spoken language has been challenged. The approach of the author is based on the contention that a written representation mandatorily fixes thought, but represents sounds only optionally.

5. The “Matrix of semiotic rules and markers” has also the role to establish the systematicity of the organization of the collected data on inscribed artifacts and inscriptions. However, demonstrating that the systematicity of the Danube script in the organization and combination of signs within the boundaries of a given inventory is homologous to the systematicity observed in other ancient scripts is a step that has not to be confused with trying to devise strategies for breaking its virtual code as suggested by this systematicity (Bouissac 1997: 55). The necessary take off point of the present work arrived through reenacting and revising the long lasting quarrel concerning the possible existence of an archaic script in Southeastern Europe. Background research was hinged on lists and repertoires of signs gathered from pioneering works by Zsófia Torma, Hubert Schmidt, Gordon Childe, Nicolae Vlassa, J. Todorović, János Makkay, Marija Gimbutas, Shan Winn, Harald Haarmann, and Gheorghe Lazarovici.

6. The next step was to build a databank hinged on an identity card recording signs, inscribed artifacts, and inscriptions (*DatDas*). Enough items and variables were needed to guarantee a statistical interrogation. Having the Danube script a weak association with phonetics and being so remote the possibility to find and reconstruct, albeit tentatively, the related proto-language, the most powerful tool to decode its semiotic code is not to establish the compatibility of its systematicity with known linguistic systematicities and decipher it by relating it to a virtual (archaic) language. A more productive way to understand something of the writing code of the Danube script is based on statistical analysis grounded on a critical mass of data. In 1940s, Alice Kober recognized that with enough material available, there was no absolute need for a bilingual text in order

to decipher the Aegean Linear B. An intelligent search for regularities and patterns in the still unknown Linear B characters would be capable to determine the nature of the 'Minoan' script and its language, and hence, if the language was in fact related to a known language, to decipher Linear B.

DatDas organizes a catalogue of 5,421 actual signs. These are recorded from a corpus of 1,178 inscriptions composed of two or more signs and 971 inscribed artifacts (some finds have two or more inscriptions) directly checked, when possible, in their original. The databank records c. 194,000 significant statistical data. It is the largest collection of inscribed artifacts belonging to the Danube Civilization and the most numerous corpus of inscriptions of the Danube script thus far assembled. The system consists of a database structure related to an interface software that makes it possible to view and query archaeological and semiotic information in an integrated fashion, including photographs and drawings. The ultimate goal is the creation of a sophisticated Internet-based research environment for specialists in textual and archaeological studies interested in investigating the Danube script.

7. In the absence of statistical confirmation about the repertory of signs and the organizational model on which it is based, scholarship can become mired in subjective opinions. Therefore, subsequent task was finding enough/consistent textual material to feed *DatDas*. The text corpus should be large enough for the analysis to yield usable results. It means at first recovering complete (not fragmentary) and long (not just mono or bi-signs) inscription in order to include texts of sufficient length rather than just emblematic inscriptions. A second sub-task was finding enough inscriptions for a statistical interrogation. The database should not be limited to some texts or even to a single inscription, as in the case of the unique and yet undeciphered Phaistos Disk. There is not a sufficient mass of text available for any undeciphered script; and some of what is available is repetitious. The largest corpus belongs to Etruscan, with some 13,000 inscriptions, but many of them fragmentary and mainly of funerary nature. The smallest is that of the Phaistos Disk, with a mere 242 characters of text consisting of 45 different signs. Since the signs of this artifact write a language we do not know, there is no hope of deciphering it until much more of this script turns up in excavations. For the same reason, it is impossible to decipher the second millennium BCE 'pseudo-hieroglyph' found at Byblos on the coast of modern Lebanon, which consists of 1038 characters classifiable into 114 signs. Linear B was decipherable only when, following Arthur Evans's death, the inscriptions from Knossos were finally published in 1952 and were supplemented by a second major 'injection' of tablets from mainland Greece.

Chadwick applied the concept of critical mass to decipherments. "By this I mean the quantity of text which will ensure that a few correct guesses will produce a chain reaction leading to more solutions. There is no formula known to me for determining the critical mass; it depends of course on the complexity of the script, and I should guess that it contains n squared where n is the number of different signs in the script" (cit. from Robinson 2002: 36). It is unlikely that Chadwick's decipherment 'n-squared' formula would be applicable to all scripts. It worked for a syllabic script such as Linear B. A direct application to a complex logographic or logosyllabic script such as the Danube script is implausible. The author gathered a quite large corpus of actual inscriptions (1178) and signs (5,421) of the Danube script. If this amount does not reach the critical mass necessary for statistical elaboration aimed to start the deciphering process, it is enough to regard the Danube script as writing and to decode significant feature of its semiotic code.

8. *DatDas* grounds the inventory of the signs belonging to the Danube script, which lists 292 sign types organized according to a reference number. The main partition of the 292 inventoried sign types is between 203 abstract signs, 52 pictograms/ideograms, and 37 numerical signs. The abstract signs are subdivided in 32 root-signs (or font-signs), which are subjected to three techniques to vary their shape for creating 167 derivative signs. Only four abstract signs are invariable.

9. The explanation of a script should fit, not contradict, the existing body of archaeological knowledge about ancient civilizations in general and the civilization under study in particular. In the 1950s, at least three reasons made reasonable to suppose that the undeciphered Linear B tablets would contain abbreviated bureaucratic records and not offers to the gods or epic poetry like Homer's epic. First, the tablets obviously contained many numerals and pictograms of mundane objects (vessels, animals, chariots, etc.). Second, they were scratched on a cheap and relatively impermanent medium made of clay, without much care for aesthetics, unlike the fine-looking contemporary Minoan seals carved on gemstones. Lastly, they were discovered in apparently palace archives, like the much larger palace archives of clay tablets found in Mesopotamia containing thousands of bureaucratic records written in cuneiform.

On the bases of the structured set of data held in *DatDas*, an overview of the Danube script was carried out by establishing its historical, geographical and typological framework. Further, its cycle of life was recognized in relation with Neolithic and Copper Age cultural complexes, cultures, and cultural groups. The area associated with the Danube script extended in Southeastern Europe from the Carpathian Basin south to the Thessalian

Plain and from the Austrian and Slovakian Alps and the Adriatic Sea east to the Ukrainian steppe. This macro-region formed a relatively bounded and cohesive unit. The geographic layout, consisting of several small and discrete micro-regions that exploited a distinct set of local resources, encouraged regional differentiation and high dynamic among the early farming societies. The present study explored them interrelating semiotic information gathered by *DatDas* and archaeological record.

9. Between 2001 and 2009, the author had the opportunity to visit and examine many Neolithic and Copper Age collections of the Danube Civilization. I am very grateful to the directors, curators and archaeologists in charge of them. In Romania, I wish to acknowledge the valuable and generous aid of the Muzeul Național de Istorie a României of București, National Muzeul Brukenthal of Sibiu, Muzeul Național de Istorie a Transilvaniei Cluj-Napoca, Muzeul Banatului of Timișoara, Muzeul Național al Unirii of Alba Iulia, Universitatea "Al. I. Cuza" Facultatea de Istorie, Muzeul de Istorie și Artă al Municipiului București, and the Seminar de Istorie Veche și Arheologie of Iași. Additional thanks are expressed to the Rezervația arheologică Cucuteni, Muzeul Județean of Botoșani, Expoziția Arheologică Tibiscum of Caransebeș, Muzeul de Istorie al Moldovei of Iași, Complexul Muzeal Județean Neamț of Piatra Neamț, Muzeul Județean de Istorie și Arheologie Prahova of Ploiești, Pre- and Protohistorical Research Centre of Alba Julia University "1 Decembrie 1918," Muzeul Regiunii "Porților de Fier" of Drobeta Turnu – Severin, and the Muzeul de Istorie of Deva.

In Austria, my gratitude is given to the Naturhistorisches Museum-Prähistorische Abteilung of Wien.

I express my deepest thank-you to the institutions and academic resources of the Republic of Serbia: the National Museum of Belgrade, Arheologie preistorică, Filozofski fakultet, Univerzitet of Belgrade, Vinča "Belo Brdo" Archaeological Site, Museum of Novi Sad, Museum of Kladovo, Museum of Vršac, Museum of Lepenski Vir, and the exhibition *Signs of Civilization* in Novi Sad.

In Bulgaria, I owe a genuine debt to the National Museum of History, National Archaeological Museum, Regional History Museum of Stara Zagora, Regional History Museum of Nova Zagora, Regional History Museum of Vratza, Regional History Museum of Kyustendil, Regional History Museum of Veliko Tarnovo, and the Regional History Museum of Rousse.

In Greece, I am appreciative of the help of the National Archaeological Museum of Athens, Archaeological Museum of Volos, Archaeological Museum of Rhodes, Archaeological Museum of Thessaloniki, Archaeological Museum of Ioannina, Archaeological Museum of Florina, and the Archaeological Museum of Drama.

In F.Y.R.O.M., I owe much to the Archaeological Museum in Skopje, Gradski muzej of Skopje, Historical Museum of Veles, and the Rock art centre of Kratovo.

In Hungary, I wish to express especial thanks to the Budapest History Museum.

In Germany, my thankfulness is given to the Museum für Vor-und Frühgeschichte of Berlin, and the Archäologische (Vormals Prähistorische) Staatssammlung-Museum Für Vor-Und Frühgeschichte of Munich.

In Ukraine, I wish to express my gratefulness to the Platar collection, National History Museum, and the Natural history Museum. In Slovenia, I have incurred debts of gratitude from the National Museum of Slovenia at Ljubljana. In Croatia, my profound gratitude is given to the Archaeological Museum in Zadar.

In Malta, I extend my profound thanks to the National Museum of Archaeology.

In Italy, my last gratitude is extended to the Museo Nazionale Preistorico ed Etnografico L. Pigorini of Rome, Palazzo la Cancellaria ("Cucuteni-Trypillia. Una grande civiltà dell'antica Europa"), Museo F. Rittatore Vonwiller of Farnese, and the Museo di Preistoria e Protostoria Valle del Fiora of Manciano.

I had opportunities to present and discuss in-progress sections of this work to the World IFRAO Congress, Skopje (2002), the IV-lea Congres International de Dacologie "Tărtăria - 2003", Bucharest (2003), the *Signs of civilization: international symposium on the Neolithic symbol system of southeast Europe*, organized by the Institute of Archaeomythology and the Serbian Academy of Sciences and Arts, Novi Sad (2004), the *World Congress of the Trypillian Civilization*, Kyiv (2004), the *11th Neolithic seminar*, organized by the Department of Archaeology, Faculty of Arts, University of Ljubljana, Ljubljana, (2004), the *Incontro di studi preistorici*, Pitigliano (2004), the M.U.S.E.U.M. final event, Rome (2005). Other early drafts were presented to the *71st Annual SAA Meeting*, San Juan, Puerto Rico (2006), the Karlovo Conference (2006), the conference *Cucuteni Tesori di una civiltà preistorica dei Carpazi*, organized by the Accademia di Romania in Rome, Rome (2007) the EAA's Thirteenth Annual Meeting in Zadar, Croatia (2007), the *International symposium on The Danube Script: Neo-Eneolithic 'writing' in Southeastern Europe*, organized by the Institute of Archaeomythology and the Brukenthal National Museum, Sibiu (2008), the EAA's Fourteenth Annual Meeting in Malta (2008), the international Symposium *85th Birth Anniversary of the Romanian archaeologist Eugen Comșa*, organized by the Archaeological Institute, Bucharest (2008). I have particularly to thank the organizers to have kindly hosted my tough and hot issue.

Reweaving the dispersed threads of the *Danube Script* would have been impossible without the input from dozen of scholars, enthusiasts and, above all, enthusiast scholars. Many of them were willing to take trouble to help me to obtain published and unpublished work, show their finds, explain their ideas, and commend on chapters in draft. I want to express my sincerest thanks to the pioneer of the Vinča signs Shan Winn, the linguist Harald Haarmann, and to my good friend and teacher Gheorghe Lazarovici (University of Sibiu, University of Reșița, and University of Caransebeș) with generous encouragement and invaluable open-minded contributions included numerous suggestions and new ideas. My earnest gratitude is expressed to Sabin Adrian Luca (Dean of the Faculty of Letters, History, and Journalism at Sibiu University and Director of the National Muzeul Brukenthal of Sibiu) who has trusted and supported my work from the earliest phases. Over the years, their ideas have profoundly shaped my own.

In Romania, I am indebted for intellectual clarity to friend and colleagues – these are not mutually exclusive categories - Magda Lazarovici (Institutul de Arheologie of Iași), Nicolae Ursulescu (Universitatea "Al. I. Cuza" Facultatea de Istorie, Seminar de Istorie Veche și Arheologie of Iași), Paul Iuliu (director of the Pre- and Protohistorical Research Centre of Alba Julia University "1 Decembrie 1918"), Cosmin Suciu (Faculty of Letters, History and Journalism of Sibiu University), Vasile Boroneanț (Muzeul de Istorie și Artă al Mun. of București), and Adrian Poruciu (University of Iași). I have been my good fortune to exchange ideas with Dan Leopold Ciobotaru (director of the Muzeul Banatului of Timișoara), Flavin Drașovean (Muzeul Banatului of Timișoara), Radian Andreescu and Eugen S. Teodor (Muzeul National de istorie a Romanici), Attila Lazlo (Universitatea "Al. I. Cuza" Facultatea de Istorie of Iași), Maria Diaconescu (Muzeul Județean of Botoșani), Alexandra Comșa (Archaeological Institute in Bucharest), and Marius Ciuta (Faculty of Letters, History, and Journalism of Sibiu University).

In the Republic of Serbia, I am grateful to Andrej Starović (National Museum of Belgrade), † Bogdan Brukner (Academy of Science in Novi Sad), Nenad Tasić (University of Belgrade), Dušan Šljivar (National Museum of Belgrade), Mile Sladić (Filozofski fakultet, Univerzitet of Belgrade), Dubravka Nicolicić (Filozofski fakultet, Univerzitet of Belgrade), and Zoran Stefanović (director of the Rastko Project).

In Greece, many scholars have given invaluable help and professional support to my research: Adamantios Sampson (Prehistoric and Classical Antiquities Department of Egean University), Alexandra Christopoulou (National Archaeological Museum), Evangelia Skafida (Museum of Volos), and Panikos Chrysostomou (Museum of Pella).

In Bulgaria, Vasil Nikolov (Deputy Director, Bulgarian Academy of Sciences Institute of Archaeology and Museum), Krum Băčvarov (Bulgarian Academy of Sciences Institute of Archaeology and Museum), and Alexander Čohadžiev (Museum of Veliko Turnovo) deserve special thanks for their cooperation.

In F.Y.R.O.M., a word of thanks to Dushko Aleksovski (director of the Rock Art Centre in Skopje), Stevce Donev (president of the Rock Art Centre in Kratovo), and Vasil Ilyov.

In the Republic of Moldova, Andrei Vartic's (director of Institutului Civilizației Dacie in Chisinau) and Ilie Borzic's (Universitatea Liberă Internațională de Chisinau) ideas have influenced the sections of the present work concerning the origin of the Danube script.

In Ukraine, it was a real pleasure working with Mikhail Videiko (National Academy of Science of Kiev), and Taras Tkachuk.

In USA, it has been a privilege to work with Joan Marler (Executive Director of the Institute of Archaeomythology), Susan Moulton (Sonoma State University), and Miriam Robbins Dexter (University of California, Los Angeles). Lolita Nikolova (Utah University) has pointed out inconsistencies and suggested many further directions in which the work could be taken. My expressed appreciations to Steve Farmer, Richard Flavin, and Napoleon Săvescu (President of the Dacia Revival International Society).

In Italy, I cannot forget the help and support given to me by Paola Uccelli Gnesutta (University of Pisa), Mirella Lattanzi and Aviana Bulgarelli. In Saudi Arabia, I extend my gratitude to Majeed Khan (Ministry of Antiquities and Museums in Saudi Arabia).

Above all, I was most fortunate to have the unflagging assistance of Andrea Castagnone (Italian Ministry of Culture), who structured the databank *DatDas*. Gianluca Sabatini, organized the cartographic sections. Joan Marler, Susan Moulton, Adam Giacinto and Marilisa Merlini spent time and patience with my "nasty boy", editing the English of some chapters. Irene Salerno offered selfless collaboration in binding the editing. A word of thank to the staff of the *Prehistory Knowledge Project* at EURO INNOVNET, the M.U.S.E.U.M. project and the F-M.U.S.E.U.M. project. They have been a constant source of ideas and support.

The artist and anthropologist Daniela Bulgarelli is the author of the original paintings in this study. I want to express a special gratitude to her.